



TURBOPUMPS – 涡轮分子泵

提供各种高端应用的完美真空解决方案



涡轮分子泵

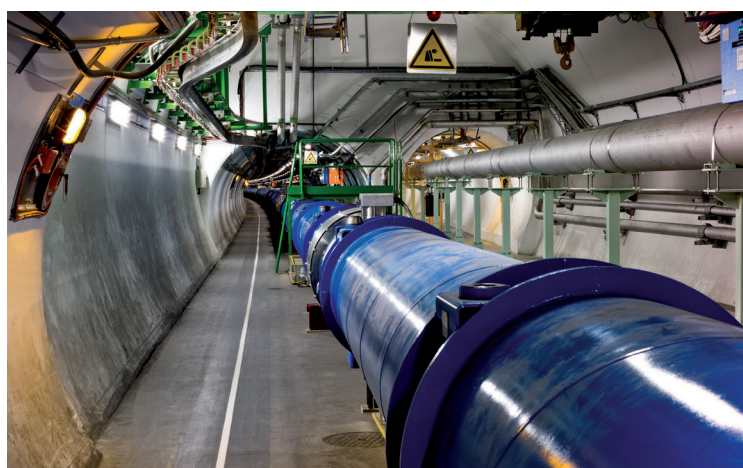
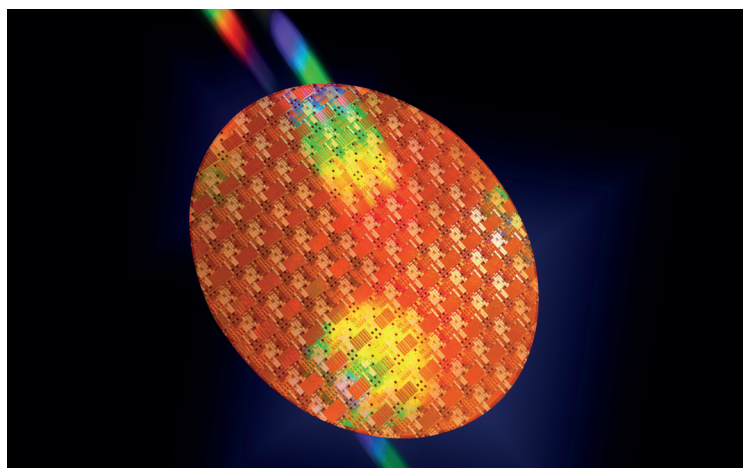
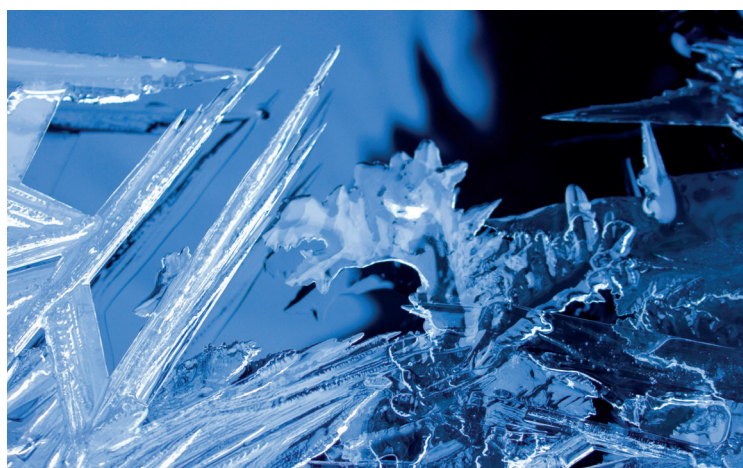
完整的产品线



| | | |
|----|------------------------------|----|
| 目录 | 涡轮分子泵 | 4 |
| | 轴承技术 | 6 |
| | HiPace® 10–800 | 8 |
| | 抽速等级在10-800升/秒的紧凑型 | |
| | 球轴承或复合轴承涡轮分子泵 | 8 |
| | 产品型号及应用领域对照表 | 9 |
| | 抽速和尺寸 | 10 |
| | 技术参数和订货号 | 12 |
| | HiPace® 1200–2300 | 14 |
| | 抽速等级在1000-2000升/秒的紧凑型 | |
| | 复合轴承涡轮分子泵 | 14 |
| | 产品型号及应用领域对照表 | 15 |
| | 抽速和尺寸 | 16 |
| | 技术参数和订货号 | 18 |
| | HiPace® 300–800 M, ATH 500 M | 20 |
| | 抽速等级在300-800升/秒的紧凑型 | |
| | 磁悬浮涡轮分子泵 | 20 |
| | 产品型号及应用领域对照表 | 21 |
| | 抽速和尺寸 | 22 |
| | 技术参数和订货号 | 24 |
| | ATH 1600–3200 M, ATP 2300 M | 26 |
| | 抽速等级在1400-2800升/秒的紧凑型 | |
| | 磁悬浮涡轮分子泵 | 26 |
| | 产品型号及应用领域对照表 | 27 |
| | 抽速和尺寸 | 28 |
| | 技术参数和订货号 | 30 |

涡轮分子泵

提供各种高端应用的完美真空解决方案



起源

您是否想过为何会有涡轮分子泵？那是因为1958年普发真空杰出的先驱发明了这种划时代的产品-涡轮分子泵。如今，在广泛的应用领域中，我们的涡轮分子泵代表着最新一代的真空解决方案，并且引领着行业的发展方向。其应用范围不仅仅局限于分析仪器、真空工艺过程和半导体技术行业，而且还可以应用于镀膜，研发和其他工业应用领域。

涡轮分子泵家族拥有从抽速10-2700升/秒的全系列产品。它们都拥有着很高的性价比和灵活的安装方式。经过实践验证的轴承系统提供了更优化的可靠性。成熟精湛的转子设计使其具有绝对出色的抽气速度，更好的前级泵兼容性和更大的气流量，对小分子气体具有更高的压缩比。

系列

HiPace® 10–800:

抽速等级在10-800升/秒的紧凑型球轴承或复合轴承涡轮分子泵
稳健性工业设计(Robust Design)
最小的空间安装需求
高可靠性

HiPace® 1200–2300:

抽速等级在1000-2000升/秒的紧凑型复合轴承涡轮分子泵
高抽速
更大的气流量
更快的启动时间

HiPace® 300–800 M, ATH 500 M:

抽速等级在300-800升/秒的紧凑型磁悬浮涡轮分子泵
更大的气流量
更低的运行震动
更低的能耗

ATH 1600–3200 M:

抽速等级在1400-2800升/秒的紧凑型磁悬浮涡轮分子泵
更好的前级泵兼容性
极高的气流量
出色的稳定性

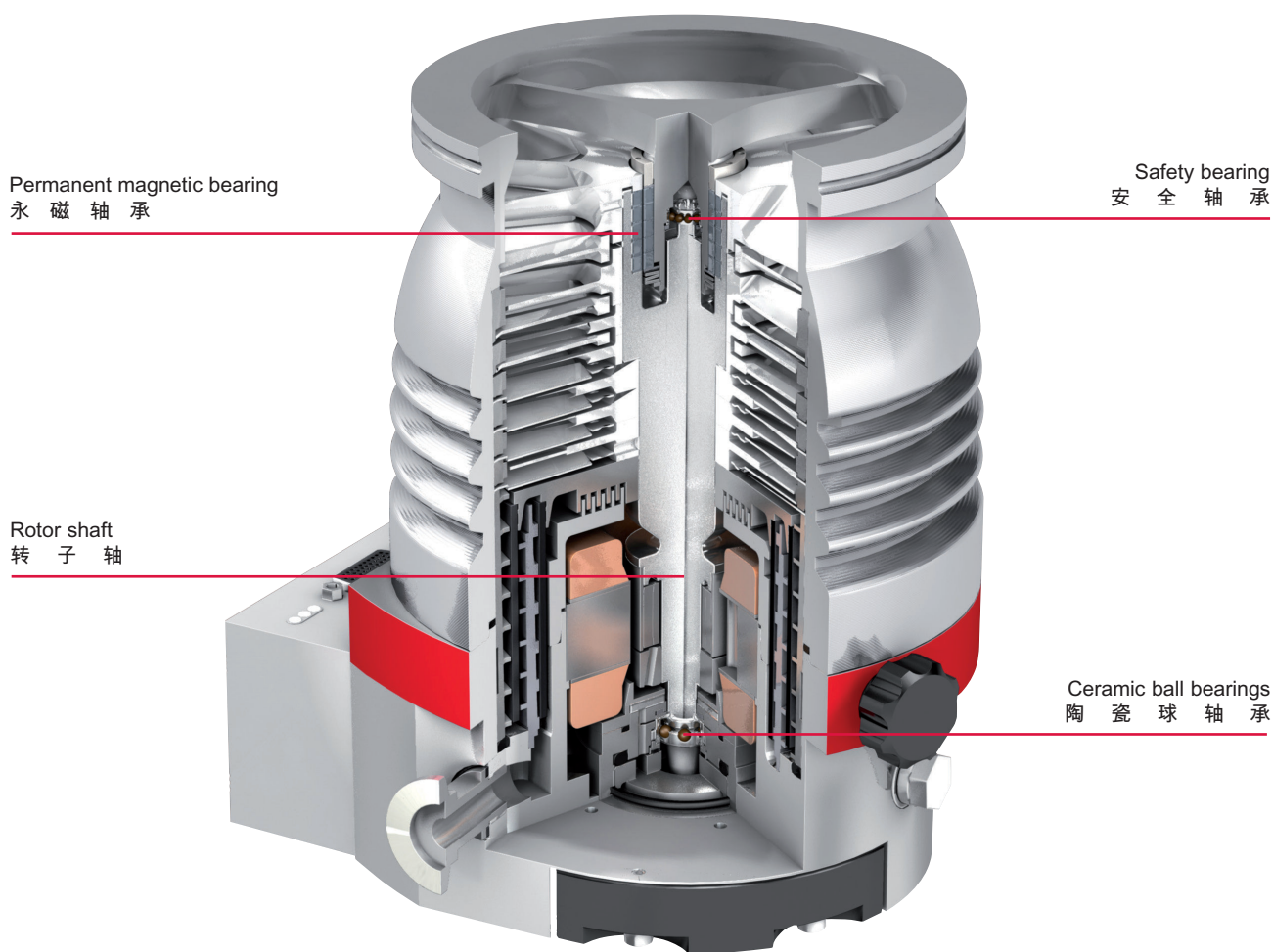


涡轮分子泵

轴承技术

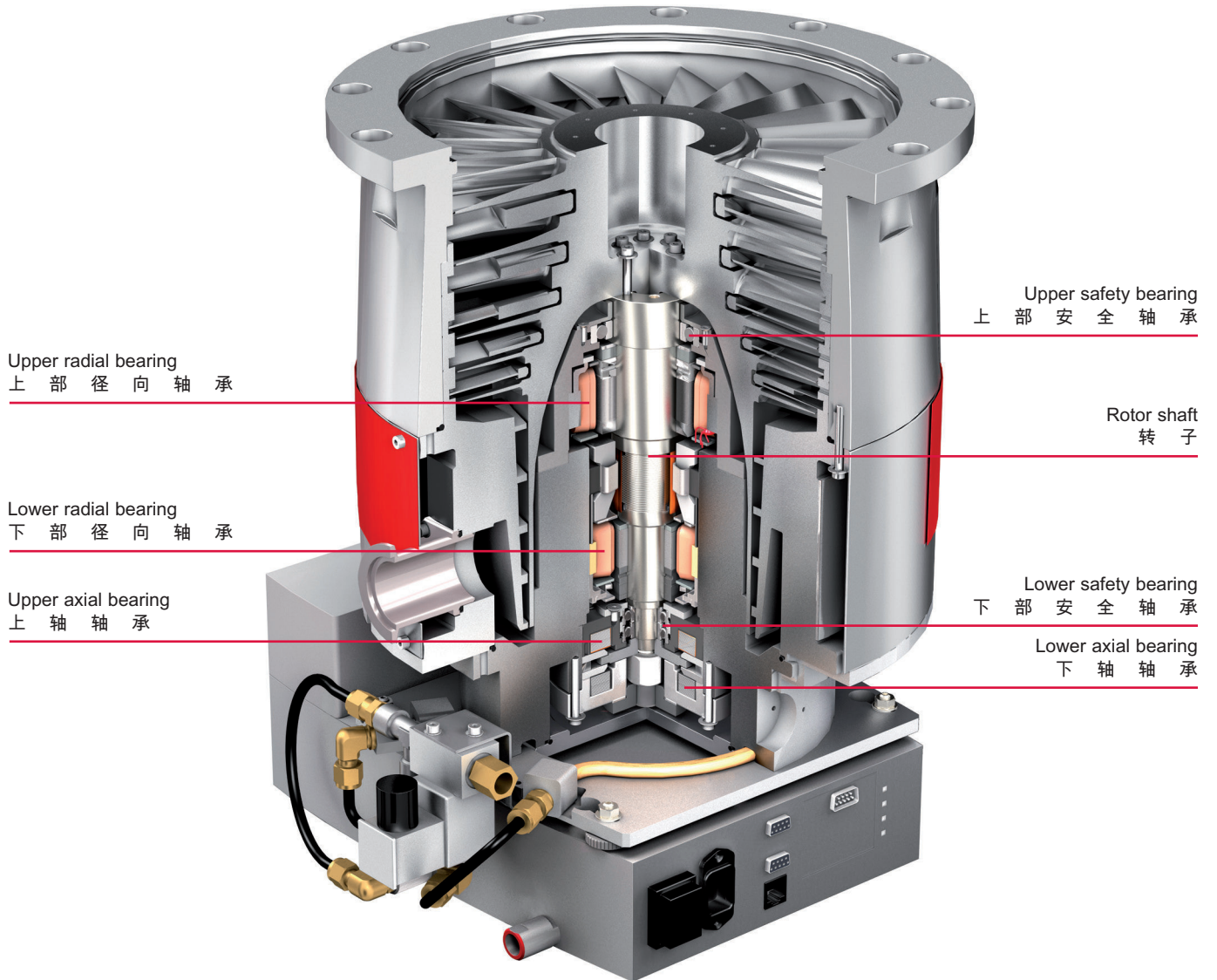
复合轴承

复合轴承就是将前级真空端的陶瓷球轴承和高真空端的永磁径向轴承相结合的设计。这种轴承技术不需要电磁铁，只需每隔约4年维护保养一次，并且可以在30分钟内现场完成陶瓷球轴承和油棉的更换。



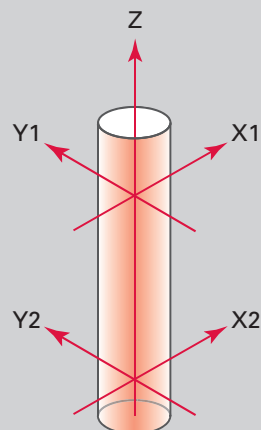
磁悬浮轴承

电磁轴承也被称作“主动式磁悬浮轴承”，其转子位置会被不间断的监测和自动调整并依靠自动平衡补偿来实现无磨损、低震动的运行。转子能持续稳定的工作也更有保障。同时这样的轴承设计也实现了零维护和无润滑油。



固定涡轮分子泵转子

由五个自由度一同固定涡轮分子泵转子，在上下径向水平各有两个点的进行固定，还有一个点来自轴向。



HIPACE® 10–800

抽速等级在10-800升/秒的紧凑型 球轴承或复合轴承涡轮分子泵

HiPace®是什么？

HiPace代表着抽速范围从10-2000升/秒的全系列紧凑且性能卓越的涡轮分子泵。其具有高性价比和安装角度的灵活性。经过实践证明的轴承系统提供了卓越的可靠性。革命性的转子设计使其具有更出色的抽速，更好的前级泵兼容性和更大的气流量，对于小分子气体具有更高的压缩比。

集成控制器

集成控制器减少了对繁琐、昂贵的布线需要。此外，还带有多样化的接口-Profibus, DeviceNet或者E74。由于采用了革新的电子元器件材料，我们集成控制器的使用寿命比原来要长2倍。



HiPace® 10



HiPace® 80



HiPace® 300



HiPace® 800

产品优势

- 抽速从10-800升/秒的全系列产品
- 稳健性工业设计(Robust Design)和经过实践证明的高可靠性轴承系统
- 紧凑型结构以满足更小的物理空间安装需求
- 高气流量和高抽速
- 可任意角度安装¹⁾
- 防护等级IP54符合工业环境应用要求
- 可应用于腐蚀性气体工况
- SEMI S2 和 UL 认证
- 完整的配件系统扩展了潜在客户的需求
- 更长的维护保养时间
- 可现场更换轴承

¹⁾ HiPace C: 0° to 90° / HiPace Plus: 0°

快速启动时间

HiPace的启动时间远快于其他同类产品。这使得其能更快的启动涡轮分子泵。这会为您的生产带来无可估量的经济效益。此外，我们提供扩展功能，可以为您实现远程数据的读取，比如泵的温度等等。先进的自诊断系统使得泵的有效性和技术服务支持变得更有保障。

高性能

基于HiPace精益求精的设计，我们的产品正引领着行业。以HiPace外壳为例，其特殊材料使得泵体的重量轻到了极致，从而扩大了其应用范围。而其转子创新的几何设计使得涡轮分子泵的运行更安静，显著改善气体负荷，建立了分子泵转子的新标准。

应用范围广

HiPace Plus系列是为电子显微镜和高端质谱行业量身定做的产品。HiPace C系列是为腐蚀性气体应用环境而设计的。此外我们还有HiPace P系列，因其能抵抗工业粉尘和微小粒子而广泛应用于工业领域。

产品型号和应用领域对照表

| | 分析仪器 | 半导体 | 镀膜 | 工业 | 研发 |
|--|---|-----|----|----|----|
| | Electron microscopy - 电子显微镜 | | | | |
| | Leak detection - 检漏 | | | | |
| | Mass spectrometry - 质谱 | | | | |
| | Surface analysis - 表面分析 | | | | |
| | Plasma monitoring - 等离子体监测 | | | | |
| | Residual gas analysis - 残余气体分析 | | | | |
| | Lithography | | | | |
| | PVD (Physical Vapor Deposition) | | | | |
| | CVD (Chemical Vapor Deposition) | | | | |
| | Plasma etching | | | | |
| | Implantation – Source | | | | |
| | Implantation – Beamline | | | | |
| | Inspection | | | | |
| | Bonding | | | | |
| | MBE (Molecular Beam Epitaxy) | | | | |
| | Load-locks, transfer chambers, handling systems | | | | |
| | Flat Panel Display (FPD) - 平板显示 | | | | |
| | LED / OLED | | | | |
| | Hard disk coating - 硬盘镀膜 | | | | |
| | Photovoltaics - 光伏 | | | | |
| | Glass coating (PVD) - 玻璃镀膜 | | | | |
| | CD / DVD / Blu-ray production (PVD) | | | | |
| | Optical coating (PVD) - 光学镀膜 | | | | |
| | Wear protection (PVD, CVD) - 硬质涂层 | | | | |
| | Web coating - 卷绕镀膜 | | | | |
| | Medical technology - 医学技术 | | | | |
| | Industrial leak detection - 工业检漏 | | | | |
| | Electron beam welding - 电子束焊接 | | | | |
| | Isolation vacuums - 隔离真空 | | | | |
| | Lamp and tube manufacturing - 灯管制造 | | | | |
| | Heat treatment - 热处理 | | | | |
| | Vacuum drying - 真空干燥 | | | | |
| | Vacuum furnaces - 真空炉 | | | | |
| | Nuclear research - 核研究 | | | | |
| | Fusion technology - 聚变技术 | | | | |
| | Plasma research - 等离子研究 | | | | |
| | Particle accelerators - 粒子加速器 | | | | |
| | Space simulation - 模拟空间站 | | | | |
| | Cryogenic research - 冷冻研究 | | | | |
| | Elementary particle physics - 基本粒子物理学 | | | | |
| | Nanotechnology - 纳米技术 | | | | |
| | Biotechnology - 生物技术 | | | | |

■ 推荐

- HiPace® 10
- HiPace® 60 P
- HiPace® 80
- HiPace® 300
- HiPace® 300 C
- HiPace® 300 P
- HiPace® 300 Plus
- HiPace® 400
- HiPace® 400 P
- HiPace® 700
- HiPace® 700 P
- HiPace® 700 Plus
- HiPace® 800
- HiPace® 800 P

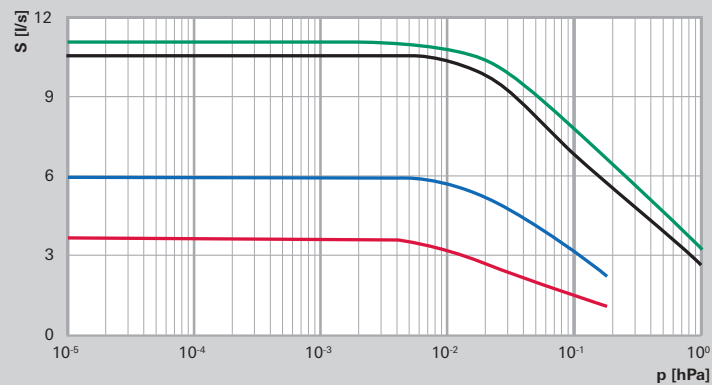
P = 工艺泵, 抗粉尘
C = 抗腐蚀性气体

HIPACE® 10–800

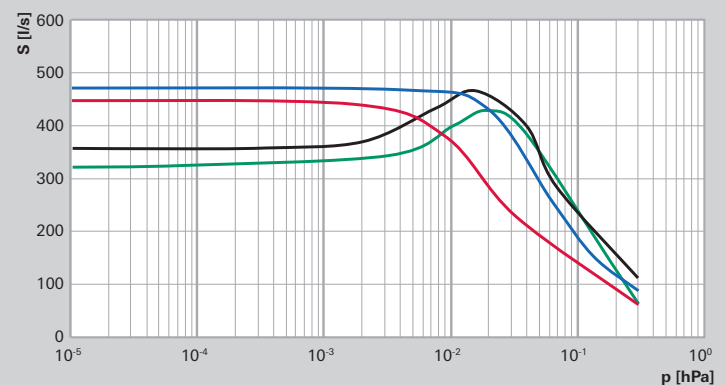
抽速和尺寸

抽速

HiPace® 10, DN 25

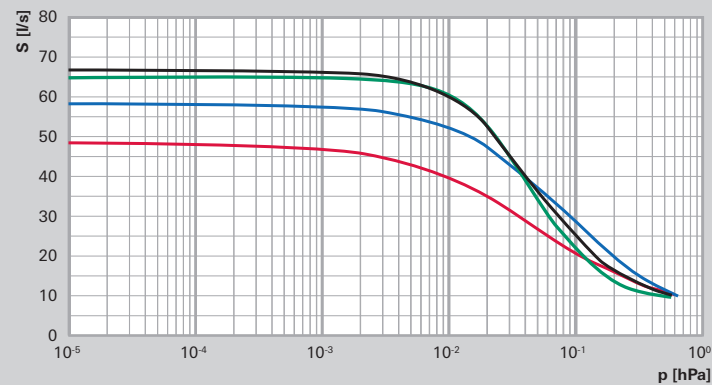


HiPace® 400, DN 100

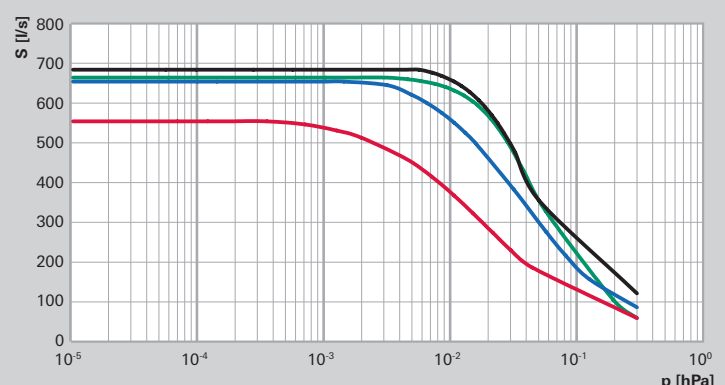


N₂ —
He —
H₂ —
Ar —

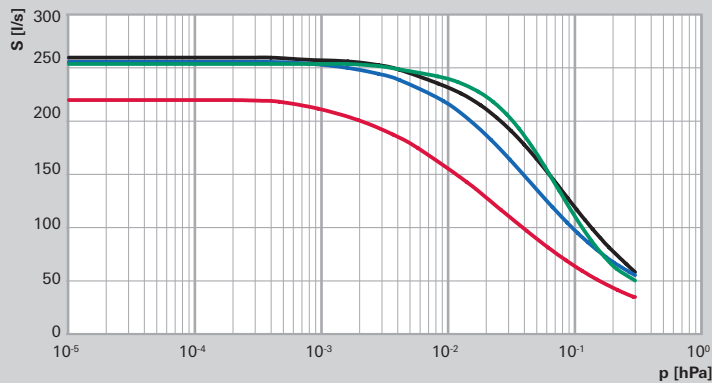
HiPace® 80, DN 63



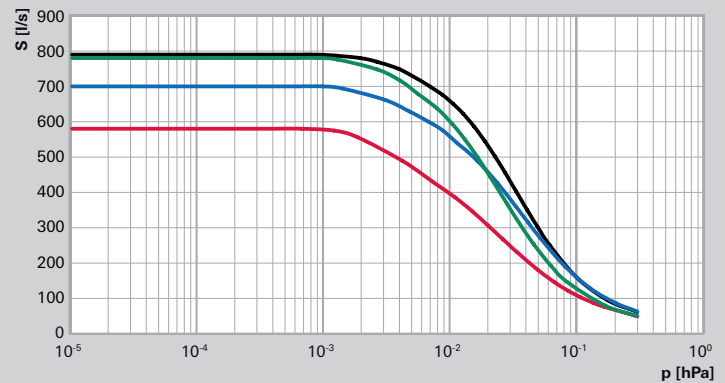
HiPace® 700, DN 160



HiPace® 300, DN 100

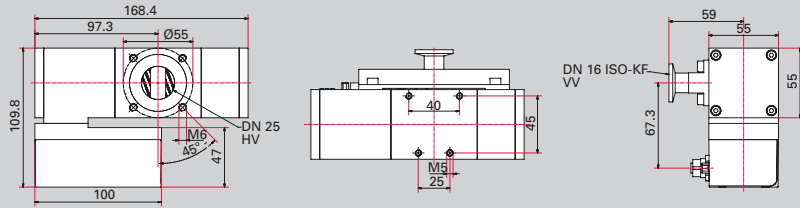


HiPace® 800, DN 200

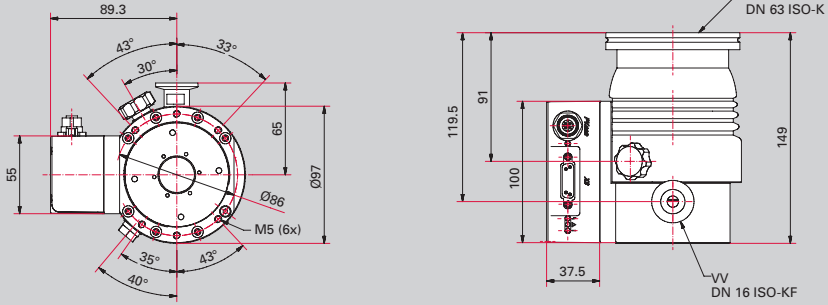


尺寸

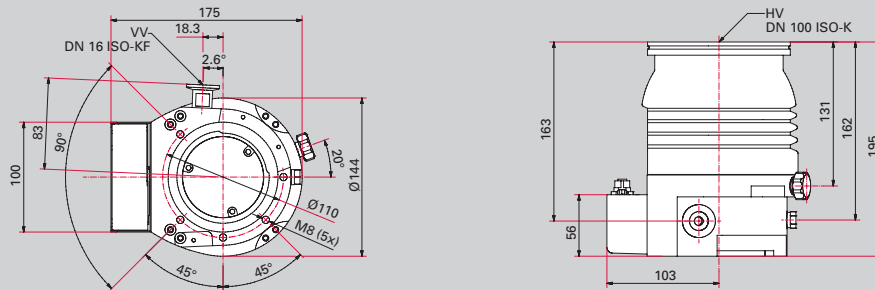
HiPace® 10,
DN 25 with TC 110



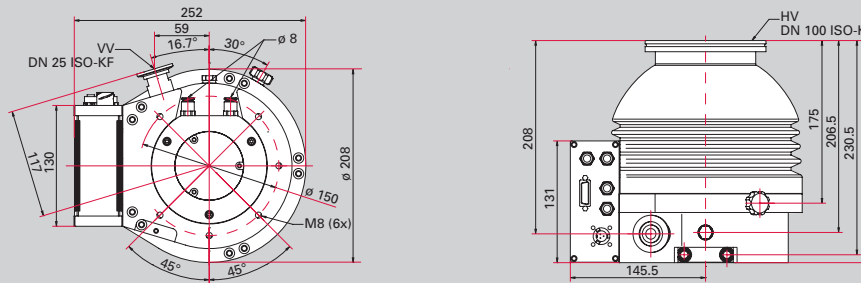
HiPace® 80,
DN 63 ISO-K with TC 110



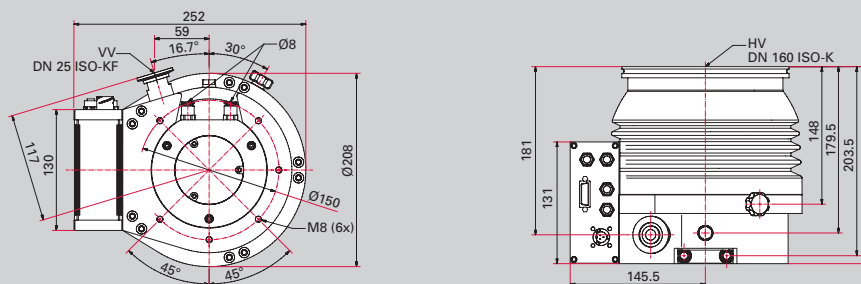
HiPace® 300,
DN 100 ISO-K with TC 110



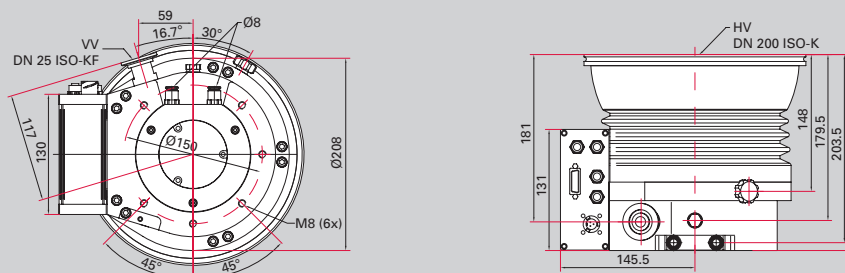
HiPace® 400, DN 100 ISO-K
with TC 400



HiPace® 700,
DN 160 ISO-K with TC 400



HiPace® 800,
DN 200 ISO-K with TC 400



HIPACE® 10–800

技术参数和订货号

技术参数

| Pump type | Unit | HiPace® 10 | HiPace® 80 | HiPace® 300 ¹⁾ | HiPace® 300 ²⁾ |
|--|---------|------------------------|------------------------|---------------------------|---------------------------|
| Connection nominal diameter | | | | | |
| Flange (in) | | DN 25 | DN 63 | DN 100 | DN 100 |
| Flange (out) | ISO-KF | DN 16 | DN 16 | DN 16 | DN 16 |
| Venting connection | | – | G 1/8" | G 1/8" | G 1/8" |
| Pumping speed for: | | | | | |
| Nitrogen (N ₂) | l/s | 10 | 67 | 260 | 260 |
| Helium (He) | l/s | 6 | 58 | 255 | 255 |
| Hydrogen (H ₂) | l/s | 3.7 | 48 | 220 | 220 |
| Argon (Ar) | l/s | 11.5 | 66 | 255 | 255 |
| Compression ratio for: | | | | | |
| Nitrogen (N ₂) | | 3 · 10 ⁶ | > 1 · 10 ¹¹ | > 1 · 10 ¹¹ | > 1 · 10 ¹¹ |
| Helium (He) | | 3 · 10 ³ | 1.3 · 10 ⁷ | > 1 · 10 ⁸ | > 1 · 10 ⁸ |
| Hydrogen (H ₂) | | 3 · 10 ² | 1.4 · 10 ⁵ | 9 · 10 ⁵ | 9 · 10 ⁵ |
| Argon (Ar) | | 2.5 · 10 ⁷ | > 1 · 10 ¹¹ | > 1 · 10 ¹¹ | > 1 · 10 ¹¹ |
| Max. fore-vacuum pressure for | | | | | |
| Nitrogen (N ₂) | hPa | 25 | 22 | 15 | 20 |
| Max. gas throughput at full rotational speed for | | | | | |
| Nitrogen (N ₂) | hPa l/s | 0.37 | 1.3 | 5 | 14 |
| Ultimate pressure | hPa | < 5 · 10 ⁻⁵ | < 1 · 10 ⁻⁷ | < 1 · 10 ⁻⁷ | < 1 · 10 ⁻⁷ |
| Rotation speed | RPM | 90,000 | 90,000 | 60,000 | 60,000 |
| Run-up time | min | 0.9 | 1.75 | 3.5 | 1.8 |
| Cooling type, Standard | | Convection | Convection | Air | Water |
| Cooling water consumption | l/min | – | – | – | 0.83 |
| Cooling water temperature | °C | – | – | – | 15–35 |
| Operating voltage ³⁾ | V DC | 24 ± 5% | 24 ± 5% | 24 ± 5% | 24 ± 5% |
| Max. power consumption | W | 28.8 | 110 | 180 | 300 |
| Weight | kg | 1.8 | 2.4 | 5.8 – 8.2 | 6.7 – 8.7 |

¹⁾with drive electronics TC 110

²⁾with drive electronics TC 400

³⁾with drive electronics

You can find additional technical data and accessories on the Internet at: www.pfeiffer-vacuum.com

订货号

| Pump type | HiPace® 10 | HiPace® 80 | | | HiPace® 300 | | |
|----------------|------------|--------------|-------------|------------|--------------|--------------|-------------|
| Drive \ flange | DN 25 | DN 40 ISO-KF | DN 63 ISO-K | DN 63 CF-F | DN 100 ISO-K | DN 100 ISO-F | DN 100 CF-F |
| TC 110 | PM P03 960 | PM P03 942 | PM P03 940 | PM P03 941 | PM P03 990 | PM P03 992 | PM P03 991 |
| TC 400 | – | – | – | – | PM P03 900 | PM P03 902 | PM P03 901 |
| TCP 350 | – | PM P03 945 | PM P03 943 | PM P03 944 | PM P03 993 | PM P03 995 | PM P03 994 |

技术参数

| Pump type | Unit | HiPace® 400 | HiPace® 700 | HiPace® 800 |
|--|---------|---------------------|---------------------|---------------------|
| Connection nominal diameter | | | | |
| Flange (in) | | DN 100 | DN 160 | DN 200 |
| Flange (out) | ISO-KF | DN 25 | DN 25 | DN 25 |
| Venting connection | | G 1/8" | G 1/8" | G 1/8" |
| Pumping speed for: | | | | |
| Nitrogen (N ₂) | l/s | 355 | 685 | 790 |
| Helium (He) | l/s | 470 | 655 | 700 |
| Hydrogen (H ₂) | l/s | 445 | 555 | 580 |
| Argon (Ar) | l/s | 320 | 665 | 780 |
| Compression ratio for: | | | | |
| Nitrogen (N ₂) | | $> 1 \cdot 10^{11}$ | $> 1 \cdot 10^{11}$ | $> 1 \cdot 10^{11}$ |
| Helium (He) | | $3 \cdot 10^7$ | $3 \cdot 10^7$ | $3 \cdot 10^7$ |
| Hydrogen (H ₂) | | $4 \cdot 10^5$ | $4 \cdot 10^5$ | $4 \cdot 10^5$ |
| Argon (Ar) | | $> 1 \cdot 10^{11}$ | $> 1 \cdot 10^{11}$ | $> 1 \cdot 10^{11}$ |
| Max. fore-vacuum pressure for | | | | |
| Nitrogen (N ₂) | hPa | 11 | 11 | 11 |
| Max. gas throughput at full rotational speed for | | | | |
| Nitrogen (N ₂) | hPa l/s | 6.5 | 6.5 | 6.5 |
| Ultimate pressure | hPa | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-7}$ |
| Rotation speed | RPM | 49,200 | 49,200 | 49,200 |
| Run-up time | min | 2 | 2 | 2 |
| Cooling type, Standard | | Water | Water | Water |
| Cooling water consumption | l/min | 1.6 | 1.6 | 1.6 |
| Cooling water temperature | °C | 15 – 35 | 15 – 35 | 15 – 35 |
| Operating voltage ¹⁾ | V DC | 48 ± 5% | 48 ± 5% | 48 ± 5% |
| Max. power consumption | W | 420 | 400 | 420 |
| Weight | kg | 11.6 – 17.5 | 11.5 – 17.4 | 12.8 – 19.1 |

¹⁾with drive electronics

You can find additional technical data and accessories on the Internet at: www.pfeiffer-vacuum.com

订货号

| Pump type | HiPace® 400 | | | HiPace® 700 | | |
|----------------|--------------|--------------|-------------|--------------|--------------|-------------|
| | DN 100 ISO-K | DN 100 ISO-F | DN 100 CF-F | DN 160 ISO-K | DN 160 ISO-F | DN 160 CF-F |
| Drive \ flange | DN 100 ISO-K | DN 100 ISO-F | DN 100 CF-F | DN 160 ISO-K | DN 160 ISO-F | DN 160 CF-F |
| TC 110 | – | – | – | – | – | – |
| TC 400 | PM P04 023 | PM P04 025 | PM P04 024 | PM P03 933 | PM P03 935 | PM P03 934 |
| TCP 350 | PM P04 026 | PM P04 028 | PM P04 027 | PM P04 080 | PM P04 082 | PM P04 081 |

| Pump type | HiPace® 800 | | |
|----------------|--------------|--------------|-------------|
| Drive \ flange | DN 200 ISO-K | DN 200 ISO-F | DN 200 CF-F |
| TC 110 | – | – | – |
| TC 400 | PM P04 300 | PM P04 302 | PM P04 301 |
| TCP 350 | – | – | – |

HIPACE® 1200–2300

抽速等级在1000-2000升/秒的紧凑型 复合轴承涡轮分子泵

智能传感器

HiPace 1200 - 2300系列涡轮分子泵可以倒置安装。经过实践证明的轴承技术确保了其绝对的可靠性。成熟精湛的转子设计使其具有更出色的抽速，更好的前级泵兼容性和更大的气流量，对于小分子气体具有更高的压缩比。集成可靠的智能传感器系统，HiPace系列当仁不让的成为市场上安全性能最好的产品。

高效能技术

经过实践证明不断优化的轴承系统，我们的技术无论在产品性能上还是在使用保养寿命上都远胜于同行业其它产品。同时HiPace系列都提供密封气体连接，密封气体连接避免了颗粒物或氧化气体对轴承的影响。因此HiPace系列不仅结构更加紧凑，几乎完美的集成性能也使其能很好的在极端恶劣的工况条件下胜任工作。时间就是金钱-更长的维护保养时间间隔，更低的故障率及现场在线更换轴承都是其不言而喻的优势。



HiPace® 1200



HiPace® 1500



HiPace® 1800



HiPace® 2300

产品优势

- 从1000-2000升/秒提供四个抽速等级
- 对小分子量气体(H₂, He)和大分子量气体(Ar, CF₄)都有很高的抽速
- 即便对大分子量气体(Ar, CF₄)也有很高的气流量
- 安装角度可选0°-90°和90°-180°
- 有抗腐蚀性气体型号可选(C型号)
- 带节流阀和阀门的集成净化气体系统
- 电压范围90 - 265 V
- 界面接口：RS-485, 远程控制；Profibus或DeviceNet可选
- 获得SEMI S2, UL, CSA和 TÜV认证
- 防护等级IP54符合工业环境应用要求
- 最大可能的符合各种工艺过程，能够忍受颗粒物

集成控制器

集成控制器减少了对繁琐、昂贵的布线需要。此外，在没有增加任何尺寸的前提下，可以提供多种界面接口。通过革新的电子元器件，电子装置的使用寿命翻番。HiPace系列的启动时间也是其一大特点，更快的启动时间使其能在更短的时间内进入工作状态。此外，我们提供扩展的功能。这就以便您能远程分析涡轮分子泵的技术数据，例如温度等。先进的智能化自诊断系统最大程度上为您提供了维护保养所需的基础数据，给维修保养工作带有了很大的支持。

精湛的设计

基于HiPace精益求精的设计，我们的产品正引领着行业。以HiPace外壳为例，其特殊材料使得泵体的重量轻到了极致，从而扩大了其应用范围。其转子创新的几何设计使得涡轮分子泵的运行更安静，显著改善气体负荷，从而建立了分子泵转子的新标准。同时集成化的冷却系统确保了涡轮分子泵性能的进一步提高，而不会有过载现象。

型号和相关应用概览

| | 分析仪器 | 半导体 | 镀膜 | 工业 | 研发 |
|--|---|-----|----|----|----|
| | Electron microscopy - 电子显微镜 | | | | |
| | Leak detection - 检漏仪 | | | | |
| | Mass spectrometry - 质谱 | | | | |
| | Surface analysis - 表面分析 | | | | |
| | Plasma monitoring - 等离子体监测 | | | | |
| | Residual gas analysis - 残余气体分析 | | | | |
| | Lithography | | | | |
| | PVD (Physical Vapor Deposition) | | | | |
| | CVD (Chemical Vapor Deposition) | | | | |
| | Plasma etching | | | | |
| | Implantation – Source | | | | |
| | Implantation – Beamline | | | | |
| | Inspection | | | | |
| | Bonding | | | | |
| | MBE (Molecular Beam Epitaxy) | | | | |
| | Load-locks, transfer chambers, handling systems | | | | |
| | Flat Panel Display (FPD) - 平板显示 | | | | |
| | LED / OLED | | | | |
| | Hard disk coating - 硬盘镀膜 | | | | |
| | Photovoltaics - 光伏 | | | | |
| | Glass coating (PVD) - 玻璃镀膜 | | | | |
| | CD / DVD / Blu-ray production (PVD) | | | | |
| | Optical coating (PVD) - 光学镀膜 | | | | |
| | Wear protection (PVD, CVD) - 硬质涂层 | | | | |
| | Web coating - 卷绕镀膜 | | | | |
| | Medical technology - 医学技术 | | | | |
| | Industrial leak detection - 工业检漏 | | | | |
| | Electron beam welding - 电子束焊接 | | | | |
| | Isolation vacuums - 隔离真空 | | | | |
| | Lamp and tube manufacturing - 灯管制造 | | | | |
| | Heat treatment - 热处理 | | | | |
| | Vacuum drying - 真空干燥 | | | | |
| | Vacuum furnaces - 真空炉 | | | | |
| | Nuclear research - 核研究 | | | | |
| | Fusion technology - 聚变技术 | | | | |
| | Plasma research - 等离子研究 | | | | |
| | Particle accelerators - 粒子加速器 | | | | |
| | Space simulation - 模拟空间站 | | | | |
| | Cryogenic research - 冷冻研究 | | | | |
| | Elementary particle physics - 基本粒子物理学 | | | | |
| | Nanotechnology - 纳米技术 | | | | |
| | Biotechnology - 生物技术 | | | | |

■ 推荐

HiPace® 1200

HiPace® 1200 C

HiPace® 1200 T

HiPace® 1500

HiPace® 1500 C

HiPace® 1500 T

HiPace® 1800

HiPace® 1800 C

HiPace® 1800 T

HiPace® 2300

HiPace® 2300 C

HiPace® 2300 T

C = 抗腐蚀性气体

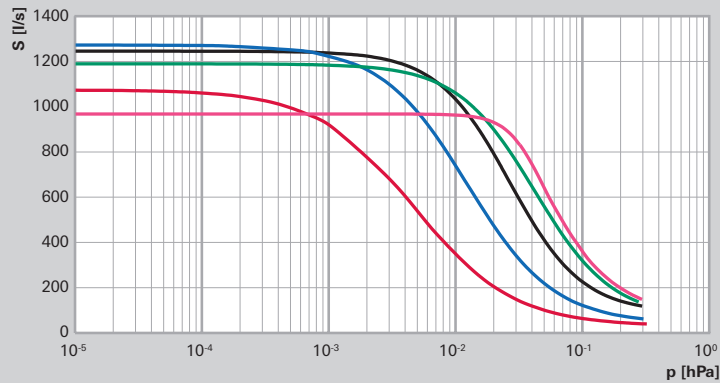
T = 温控管理

HIPACE® 1200–2300

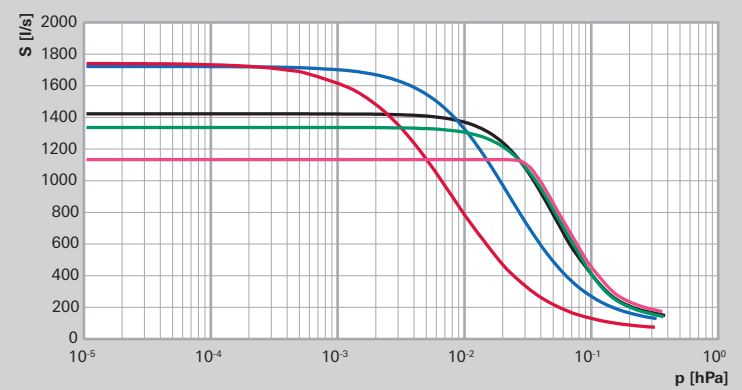
抽速和尺寸

抽速

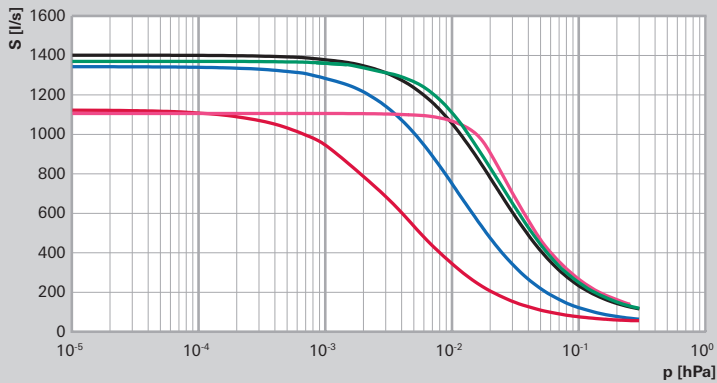
HiPace® 1200, DN 200



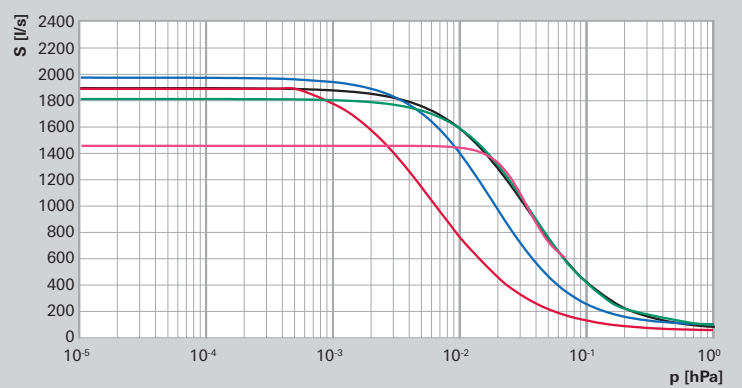
HiPace® 1800, DN 200



HiPace® 1500, DN 250



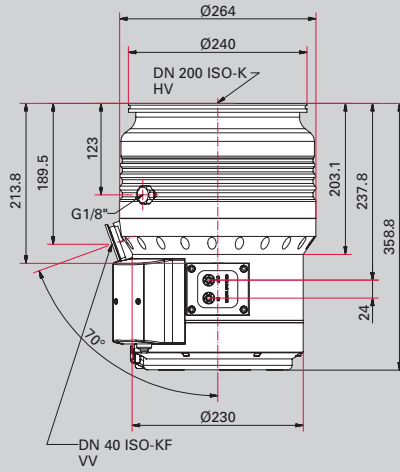
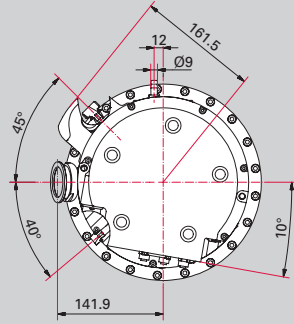
HiPace® 2300, DN 250



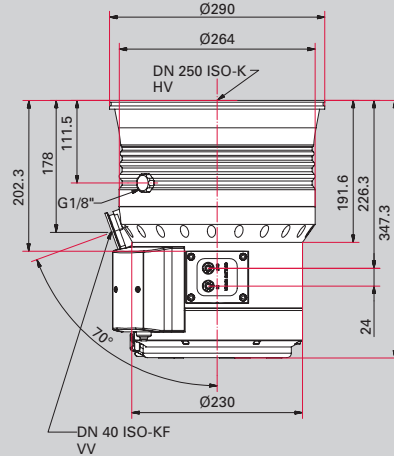
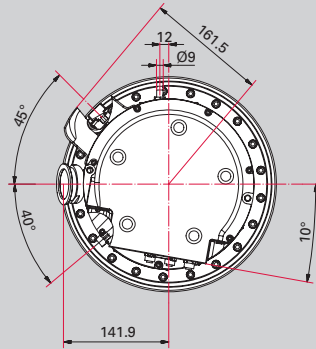
N₂ —
He —
H₂ —
Ar —
CF₄ —

尺寸

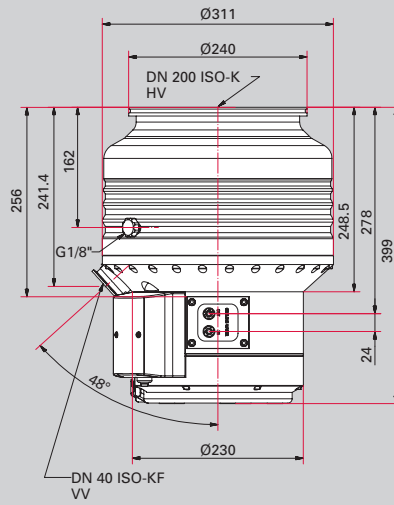
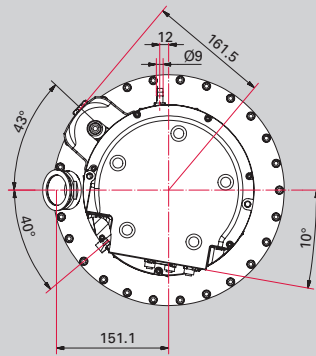
HiPace® 1200,
DN 200 ISO-K



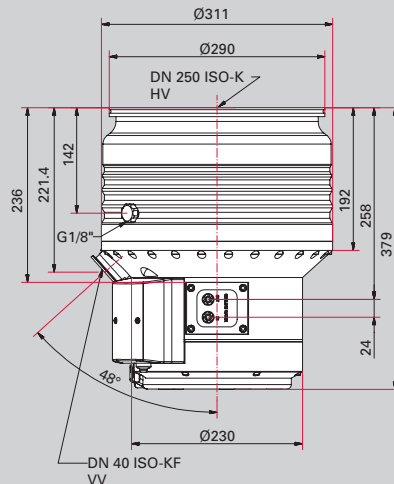
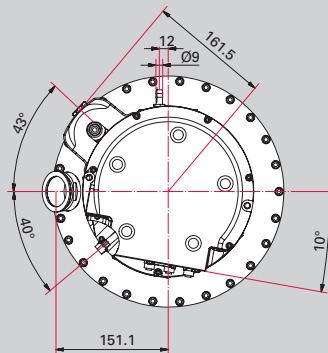
HiPace® 1500,
DN 250 ISO-K



HiPace® 1800,
DN 200 ISO-K



HiPace® 2300,
DN 250 ISO-K



HIPACE® 1200 – 2300

技术参数和订货号

技术参数

| Pump type | Unit | HiPace® 1200 | HiPace® 1500 | HiPace® 1800 | HiPace® 2300 |
|--|---------|-------------------------|-------------------------|-------------------------|-------------------------|
| Connection nominal diameter | | | | | |
| Flange (in) | | DN 200 | DN 250 | DN 200 | DN 250 |
| Flange (out) | ISO-KF | DN 40 | DN 40 | DN 40 | DN 40 |
| Venting connection | | G 1/8" | G 1/8" | G 1/8" | G 1/8" |
| Pumping speed for | | | | | |
| Nitrogen (N ₂) | l/s | 1,250 | 1,400 | 1,450 | 1,900 |
| Helium (He) | l/s | 1,300 | 1,350 | 1,650 | 2,000 |
| Hydrogen (H ₂) | l/s | 1,100 | 1,150 | 1,700 | 1,850 |
| Argon (Ar) | l/s | 1,200 | 1,350 | 1,370 | 1,800 |
| Tetrafluoromethane (CF ₄) | l/s | 950 | 1,100 | 1,050 | 1,450 |
| Compression ratio for | | | | | |
| Nitrogen (N ₂) | | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ |
| Helium (He) | | $2 \cdot 10^5$ | $2 \cdot 10^5$ | $3 \cdot 10^5$ | $3 \cdot 10^5$ |
| Hydrogen (H ₂) | | $6 \cdot 10^3$ | $6 \cdot 10^3$ | $2 \cdot 10^4$ | $2 \cdot 10^4$ |
| Argon (Ar) | | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ |
| Tetrafluoromethane (CF ₄) | | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ | $> 1 \cdot 10^8$ |
| Max. fore-vacuum pressure for | | | | | |
| Nitrogen (N ₂) | hPa | 2 | 2 | 1.8 | 1.8 |
| Max. gas throughput at full rotational speed for | | | | | |
| Nitrogen (N ₂) | hPa l/s | 20 | 20 | 20 | 20 |
| Helium (He) | hPa l/s | > 30 | > 30 | 20 | 20 |
| Hydrogen (H ₂) | hPa l/s | > 30 | > 30 | 20 | > 30 |
| Argon (Ar) | hPa l/s | 11 | 11 | 16 | 16 |
| Tetrafluoromethane (CF ₄) | hPa l/s | 12 | 12 | 14 | 14 |
| Ultimate pressure ¹⁾ | hPa | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-7}$ |
| Rotation speed | RPM | 37,800 | 37,800 | 31,500 | 31,500 |
| Run-up time | min | 2.5 | 2.5 | 4 | 4 |
| Cooling type, Standard | | Water | Water | Water | Water |
| Cooling water consumption ²⁾ | l/h | 100 | 100 | 100 | 100 |
| Cooling water temperature | °C | 15 – 35 | 15 – 35 | 15 – 35 | 15 – 35 |
| Power connection: voltage | V AC | 100 – 120/ 200 – 240 | 100 – 120/ 200 – 240 | 100 – 120/ 200 – 240 | 100 – 120/ 200 – 240 |
| Max. power consumption | W | 1,350 | 1,350 | 1,350 | 1,350 |
| Weight | kg | 27 – 40 | 29 – 41 | 33 – 34 | 34 – 47 |

¹⁾Measured with oil-free backing pump purged with inert gas, not tempered, elastomer sealed

²⁾At maximum gas throughput and cooling water temperature of 25 °C

You can find additional technical data and accessories on the Internet at: www.pfeiffer-vacuum.com

订货号

| Flange Orientation of the HV flange | ISO-K up (0° – 90°) | ISO-F | CF-F | ISO-K upside down (90° – 180°) | ISO-F | CF-F |
|--|--------------------------------------|------------|------------|-----------------------------------|------------|------------|
| Pump type | HiPace® 1200, DN 200, TC 1200 | | | | | |
| Standard version | PM P03 910 | PM P03 911 | PM P03 912 | PM P03 913 | PM P03 914 | PM P03 915 |
| Corrosive gas version | PM P03 916 | PM P03 917 | PM P04 190 | PM P03 918 | PM P03 919 | PM P04 191 |
| Pump type | HiPace® 1500, DN 250, TC 1200 | | | | | |
| Standard version | PM P04 060 | PM P04 061 | PM P04 062 | PM P04 063 | PM P04 064 | PM P04 065 |
| Corrosive gas version | PM P04 066 | PM P04 067 | PM P04 192 | PM P04 068 | PM P04 069 | PM P04 193 |
| Pump type | HiPace® 1800, DN 200, TC 1200 | | | | | |
| Standard version | PM P04 070 | PM P04 071 | – | PM P04 073 | PM P04 074 | – |
| Corrosive gas version | PM P04 076 | PM P04 077 | – | PM P04 078 | PM P04 079 | – |
| Pump type | HiPace® 2300, DN 250, TC 1200 | | | | | |
| Standard version | PM P03 920 | PM P03 921 | PM P03 922 | PM P03 923 | PM P03 924 | PM P03 925 |
| Corrosive gas version | PM P03 926 | PM P03 927 | PM P04 194 | PM P03 928 | PM P03 929 | PM P04 195 |

HIPACE® 300 – 800 M, ATH 500 M

抽速等级在300-800升/秒的紧凑型 磁悬浮涡轮分子泵

技术上的完美杰作

HiPace M和ATH 500 M拥有5轴磁轴承。利用这种轴承技术，转子的位置能被实时控制。在工作中，动平衡装置会进行自动校准，可以最小程度上减轻震动和工艺过程中产生的轴承位移。低能耗和极低的维护成本确保了其极高的性价比。

超强的兼容性

是否觉得不同的界面接口标准让您头疼不已？我们的磁悬浮涡轮分子泵能提供集成化的电子驱动装置供您选择，从而满足各种不同界面接口的连接需要。



HiPace® 300 M



ATH 500 M



HiPace® 700 M



HiPace® 800 M

产品优势

- 安装简便
- 任意角度安装
- 集成控制器
- 无润滑油的磁轴承技术实现真正的洁净真空
- 对所有过程气体都能实现高气流量
- 低震动及低磁场干扰
- 动平衡自动补偿
- 转速范围大
- 出色的稳定性和可靠性

业界领先

在极高的抽速、压缩比和气流量的情况下，所产生的震动却是微乎其微的，这才是客户所期望的真正理想的真空环境。5轴磁悬浮泵在业界获得了出色的性能参数，使其成为分析仪器、研发这类洁净制成和镀膜、半导体工艺这类反应制成共同的选择。

安全性高

我们免维护的磁悬浮系列涡轮分子泵采用高质量和高安全系数的轴承以确保运行的绝对安全。即便在极其苛刻的工况环境下工作，由于我们通过了IP54防护等级，HiPace系列磁悬浮泵也能轻松胜任。同时根据ISO27892标准的产品测试也显示我们所有的泵都通过了极其严格的安全测试要求。

产品型号和应用领域对照表

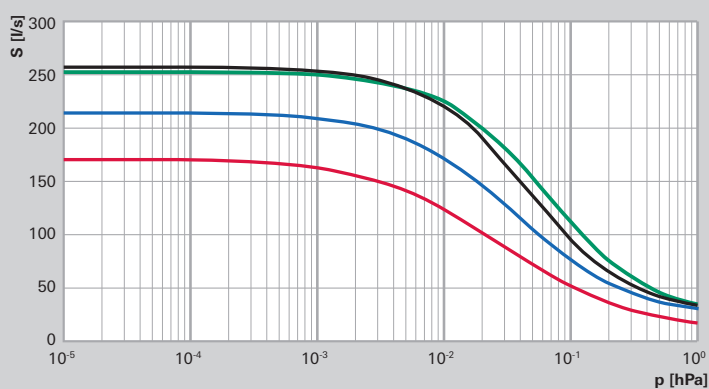
| | 分析仪器 | 半导体 | 镀膜 | 工业 | 研发 |
|---------------|---|-----|----|----|----|
| | Electron microscopy - 电子显微镜 | | | | |
| | Leak detection-检漏 | | | | |
| | Mass spectrometry - 质谱 | | | | |
| | Surface analysis - 表面分析 | | | | |
| | Plasma monitoring - 等离子体监测 | | | | |
| | Residual gas analysis - 残余气体分析 | | | | |
| | Lithography | | | | |
| | PVD (Physical Vapor Deposition) | | | | |
| | CVD (Chemical Vapor Deposition) | | | | |
| | Plasma etching | | | | |
| | Implantation – Source | | | | |
| | Implantation – Beamline | | | | |
| | Inspection | | | | |
| | Bonding | | | | |
| | MBE (Molecular Beam Epitaxy) | | | | |
| | Load-locks, transfer chambers, handling systems | | | | |
| | Flat Panel Display (FPD) - 平板显示 | | | | |
| | LED / OLED | | | | |
| | Hard disk coating - 硬盘镀膜 | | | | |
| | Photovoltaics - 光伏 | | | | |
| | Glass coating (PVD) - 玻璃镀膜 | | | | |
| | CD / DVD / Blu-ray production (PVD) | | | | |
| | Optical coating (PVD) - 光学镀膜 | | | | |
| | Wear protection (PVD, CVD) - 硬质涂层 | | | | |
| | Web coating - 卷绕镀膜 | | | | |
| | Medical technology - 医学技术 | | | | |
| | Industrial leak detection - 工业检漏 | | | | |
| | Electron beam welding - 电子束焊接 | | | | |
| | Isolation vacuums - 隔离真空 | | | | |
| | Lamp and tube manufacturing - 灯管制造 | | | | |
| | Heat treatment - 热处理 | | | | |
| | Vacuum drying - 真空干燥 | | | | |
| | Vacuum furnaces - 真空炉 | | | | |
| | Nuclear research - 核研究 | | | | |
| | Fusion technology - 聚变技术 | | | | |
| | Plasma research - 等离子研究 | | | | |
| | Particle accelerators - 粒子加速器 | | | | |
| | Space simulation - 模拟空间站 | | | | |
| | Cryogenic research - 冷冻研究 | | | | |
| | Elementary particle physics - 基本粒子物理学 | | | | |
| | Nanotechnology - 纳米技术 | | | | |
| | Biotechnology - 生物技术 | | | | |
| ■ 推荐 | | | | | |
| HiPace® 300 M | ■ | | | | |
| ATH 500 M | | ■ | | | |
| ATH 500 MT | | | ■ | | |
| HiPace® 700 M | ■ | | | | |
| HiPace® 800 M | ■ | | | | |

HIPACE® 300–800 M, ATH 500 M

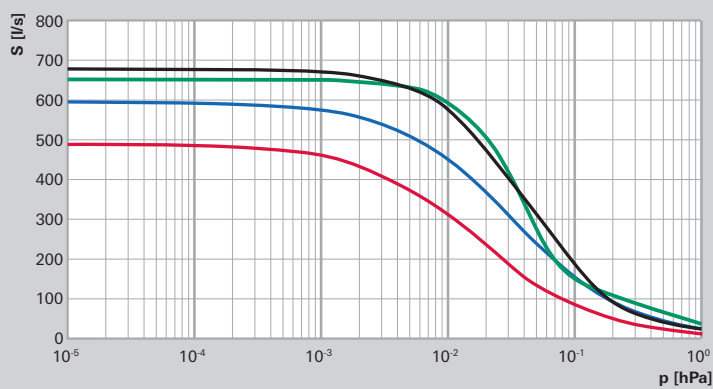
抽速和尺寸

抽速

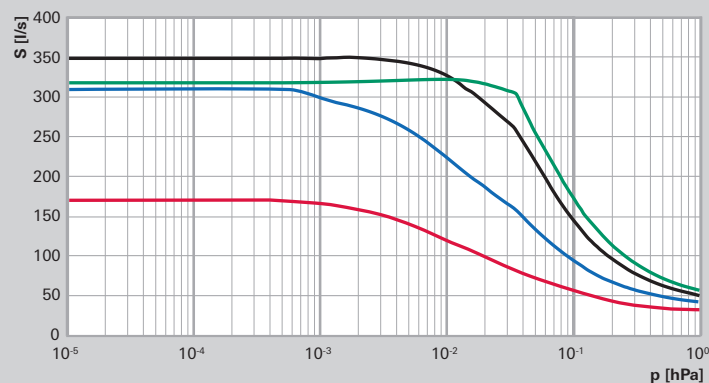
HiPace® 300 M, DN 100



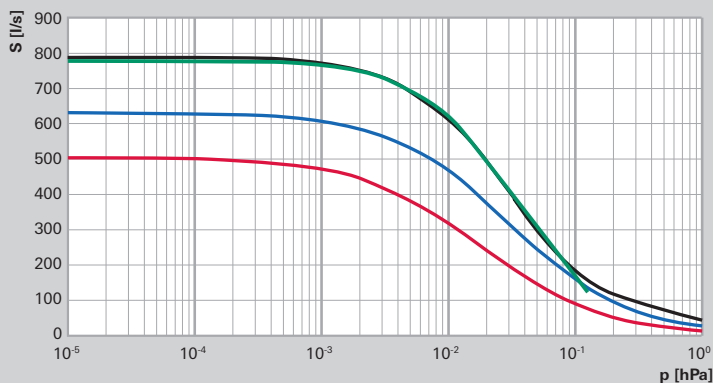
HiPace® 700 M, DN 160



ATH 500 M, DN 160



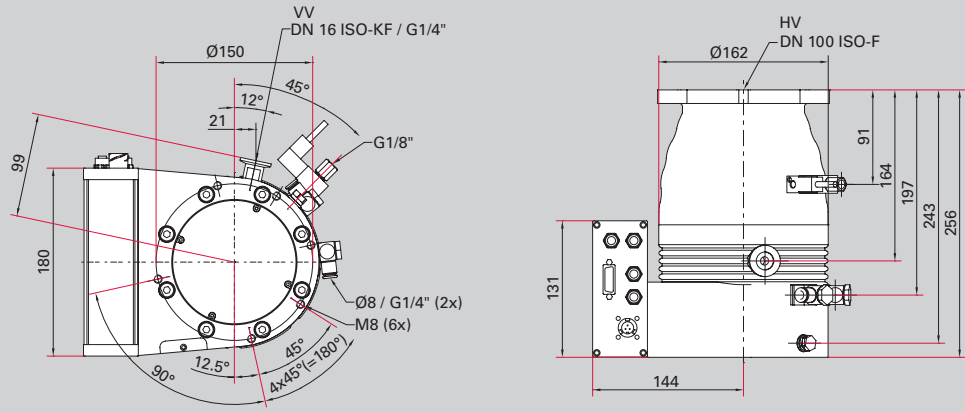
HiPace® 800 M, DN 200



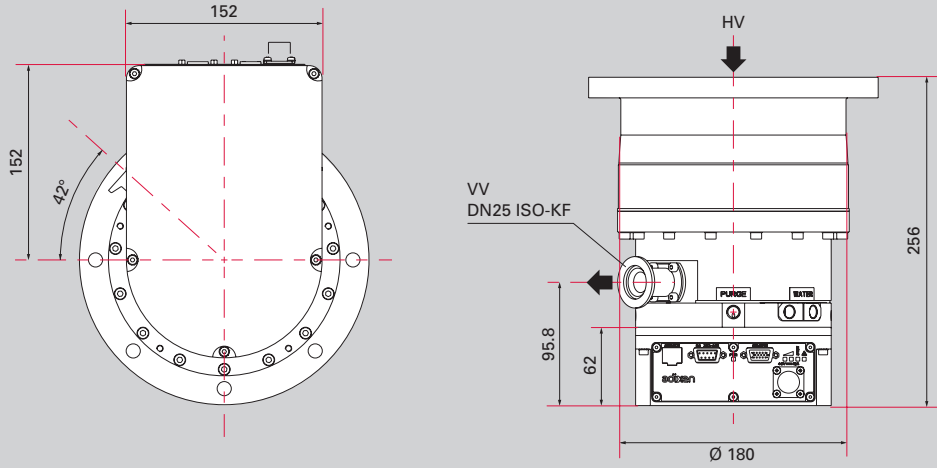
N₂ —
He —
H₂ —
Ar —

尺寸

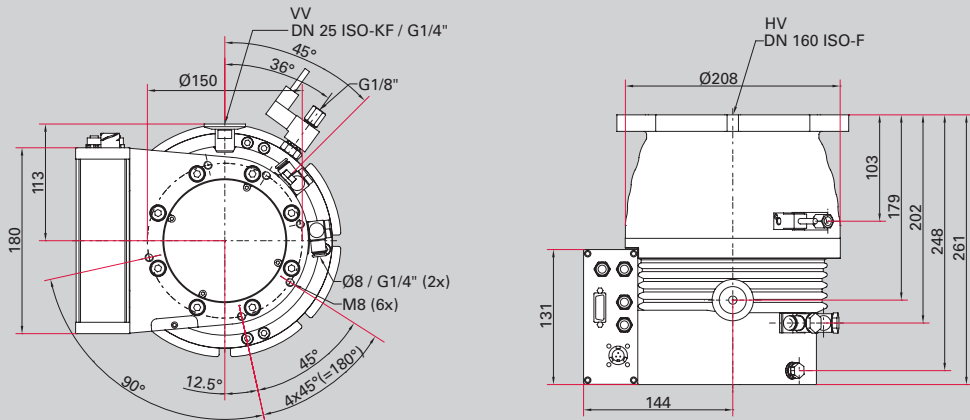
HiPace® 300 M,
DN 100 ISO-F



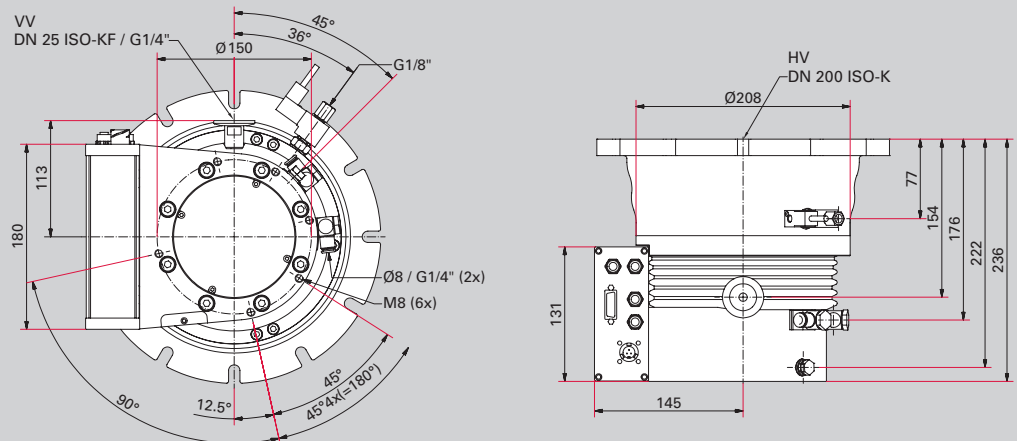
ATH 500 M,
DN 160 ISO-F



HiPace® 700 M,
DN 160 ISO-F



HiPace® 800 M,
DN 200 ISO-F



HIPACE® 300 – 800 M, ATH 500 M

技术参数和订货号

技术参数

| Pump type | Unit | HiPace® 300 M | ATH 500 M | HiPace® 700 M | HiPace® 800 M |
|--|---------|---------------------|---------------------|---------------------|---------------------|
| Connection nominal diameter | | | | | |
| Flange (in) | | DN 100 | DN 160 | DN 160 | DN 200 |
| Flange (out) | ISO-KF | DN 16 | DN 25 | DN 25 | DN 25 |
| Venting connection | | G 1/8" | G 1/8" | G 1/8" | G 1/8" |
| Pumping speed for | | | | | |
| Nitrogen (N ₂) | l/s | 255 | 550 | 685 | 790 |
| Helium (He) | l/s | 215 | 390 | 600 | 625 |
| Hydrogen (H ₂) | l/s | 170 | 190 | 480 | 500 |
| Argon (Ar) | l/s | 250 | 530 | 660 | 775 |
| Compression ratio for | | | | | |
| Nitrogen (N ₂) | | $> 1 \cdot 10^{11}$ | $> 2 \cdot 10^7$ | $> 1 \cdot 10^{11}$ | $> 1 \cdot 10^{11}$ |
| Helium (He) | | $> 1 \cdot 10^8$ | $> 1 \cdot 10^4$ | $> 1 \cdot 10^7$ | $> 1 \cdot 10^7$ |
| Hydrogen (H ₂) | | $5 \cdot 10^5$ | $> 2 \cdot 10^2$ | $2 \cdot 10^5$ | $2 \cdot 10^5$ |
| Argon (Ar) | | $> 1 \cdot 10^{11}$ | $> 8 \cdot 10^6$ | $> 1 \cdot 10^{11}$ | $> 1 \cdot 10^{11}$ |
| Max. fore-vacuum pressure for | | | | | |
| Nitrogen (N ₂) | hPa | 20 | 2.6 | 8 | 8 |
| Max. gas throughput at full rotational speed for | | | | | |
| Nitrogen (N ₂) | hPa l/s | 28 | 67 | 13 | 13 |
| Argon (Ar) | hPa l/s | 13 | 42 | 8 | 8 |
| Ultimate pressure | hPa | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-8}$ | $< 1 \cdot 10^{-7}$ | $< 1 \cdot 10^{-7}$ |
| Rotation speed | RPM | 60,000 | 50,000 | 49,200 | 49,200 |
| Run-up time | min | < 2 | < 2 | 4 | 4 |
| Cooling type, Standard | | Water | Water | Water | Water |
| Cooling water consumption | l/min | 1.3 | 1.0 | 1.3 | 1.3 |
| Cooling water temperature | °C | 15 – 35 | 15 – 25 | 15 – 35 | 15 – 35 |
| Operating voltage ¹⁾ | V DC | 48 ± 5% | 48 ± 5% | 48 ± 5% | 48 ± 5% |
| Max. power consumption | W | 300 | 550 | 300 | 300 |
| Weight | kg | 13.1 – 17.2 | 17 – 18 | 15.7 – 20.8 | 17.1 – 21.5 |

¹⁾with drive electronics

You can find additional technical data and accessories on the Internet at: www.pfeiffer-vacuum.com

订货号

| Pump type | HiPace® 300 M | | |
|--------------------|---------------|--------------|-------------|
| Interface \ flange | DN 100 ISO-K | DN 100 ISO-F | DN 100 CF-F |
| RS-485 | PM P03 950 | PM P03 951 | PM P03 952 |
| Profibus | PM P03 953 | PM P03 954 | PM P03 955 |
| DeviceNet | PM P03 956 | PM P03 957 | PM P03 958 |

| Pump type | ATH 500 M | | | ATH 500 M | | |
|-----------------------------|--------------|--------------|-------------|--------------|--------------|-------------|
| Interface, cooling \ flange | DN 100 ISO-F | DN 100 ISO-K | DN 100 CF-F | DN 160 ISO-F | DN 160 ISO-K | DN 160 CF-F |
| Profibus, water cooling | VY362100 | VY312100 | VY322100 | VY462100 | VY412100 | VY422100 |
| Remote, water cooling | V2362100 | V2312100 | V2322100 | V2462100 | V2412100 | V2422100 |
| Profibus, air cooling | VY361100 | VY311100 | VY321100 | V2462100 | VY411100 | VY421100 |
| Remote, air cooling | V2361100 | V2311100 | V2321100 | V2461100 | V2411100 | V2421100 |

| Pump type | ATH 500 MT | | | ATH 500 MT | | |
|-----------------------------|--------------|--------------|-------------|--------------|--------------|-------------|
| Interface, cooling \ flange | DN 100 ISO-F | DN 100 ISO-K | DN 100 CF-F | DN 160 ISO-F | DN 160 ISO-K | DN 160 CF-F |
| Remote, water cooling | VR362103 | VR312103 | VR322103 | VR462103 | VR412103 | VR422103 |

| Pump type | HiPace® 700 M | | |
|--------------------|---------------|--------------|-------------|
| Interface \ flange | DN 100 ISO-K | DN 160 ISO-F | DN 160 CF-F |
| RS-485 | PM P04 450 | PM P04 451 | PM P04 452 |
| Profibus | PM P04 453 | PM P04 454 | PM P04 455 |
| DeviceNet | PM P04 456 | PM P04 457 | PM P04 458 |

| Pump type | HiPace® 800 M | | |
|--------------------|---------------|--------------|-------------|
| Interface \ flange | DN 200 ISO-K | DN 200 ISO-F | DN 200 CF-F |
| RS-485 | PM P04 460 | PM P04 461 | PM P04 462 |
| Profibus | PM P04 463 | PM P04 464 | PM P04 465 |
| DeviceNet | PM P04 466 | PM P04 467 | PM P04 468 |

ATH 500 MT = 温控管理

ATH 1600 – 3200 M, ATP 2300 M

抽速等级在1400-2800升/秒的紧凑型 磁悬浮涡轮分子泵

可靠

我们ATH M和ATP¹⁾ M系列的磁悬浮涡轮分子泵拥有5轴磁轴转子监测系统和实时的转子位移自动修正功能。通过采用这种高性能的轴承技术，我们的泵不仅能确保长时间的稳定性和可靠性，同时运行时也非常安静。此系列轴承技术的泵在半导体、镀膜和干蚀刻等离子体过程行业的高真空工艺中具有标杆地位，此外也广泛应用于许多其他工业行业和研发领域。

¹⁾ATP = no Holweck stage



ATH 1603 M,
with drive electronics OBC V4



ATH 2303 M,
with drive electronics OBC V4



ATH 2800 M



ATH 3200 M

产品优势

- 无润滑油的磁轴承技术实现真正的洁净真空
- 对所有过程气体都能实现高气流量
- 出色的稳定性和可靠性
- 更好的前级泵兼容性
- 气体进入稳定性高
- 免维护低成本保养费
- 转速可选范围大，适合定制化工艺需求
- 极低的噪音和震动
- 可任意角度安装
- 磁轴技术实现转子实时监测

高性能

我们的磁悬浮分子泵广泛应用于高气流和高工作压力的真空工艺。在研发领域，我们的产品即便在极限真空相对较低的情况下，其震动仍旧微乎其微。宽泛的转速范围为各种工艺要求都提供了可能，甚至可以直接替换陈旧的高真空泵以适应抽速的要求。

安全

在突然停电时，即便没有任何电源供电的情况下，转子仍能持续运转一段时间，并且缓慢地落到安全轴承上。同时在大量大气直接进入或者泵的控制器和通讯线断开的情况下，安全轴承也能起到很好的保护作用。轴承的状态是由控制器进行实时监控。在大量的大气进入或者受到强烈的外力冲击时，由控制器控制的放气阀可以有效地快速的进行紧急制动以避免分子泵遭到损坏。

在ATH M系列的分子泵中，带有MT型号分子泵配有集成加热带可以进行温度控制。其自带加热系统和水冷系统同时作用，可以保证泵的工作温度相对恒定(最高工作温度75°C)，同时最小化过程化学物或副产物在泵体内因冷凝而产生的沉积。

产品型号和应用领域对照表

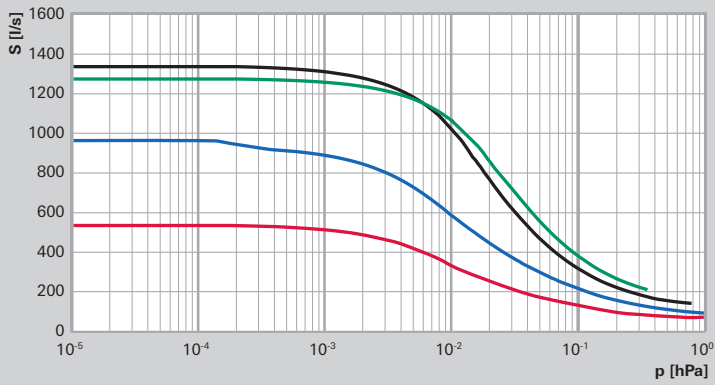
| | 分析仪器 | 半导体 | 镀膜 | 工业 | 研发 |
|-------------|---|-----|----|----|----|
| | Electron microscopy - 电子显微镜 | | | | |
| | Leak detection - 检漏 | | | | |
| | Mass spectrometry - 质谱 | | | | |
| | Surface analysis - 表面分析 | | | | |
| | Plasma monitoring - 等离子体监测 | | | | |
| | Residual gas analysis - 残余气体分析 | | | | |
| | Lithography | | | | |
| | PVD (Physical Vapor Deposition) | | | | |
| | CVD (Chemical Vapor Deposition) | | | | |
| | Plasma etching | | | | |
| | Implantation – Source | | | | |
| | Implantation – Beamline | | | | |
| | Inspection | | | | |
| | Bonding | | | | |
| | MBE (Molecular Beam Epitaxy) | | | | |
| | Load-locks, transfer chambers, handling systems | | | | |
| | Flat Panel Display (FPD) - 平板显示 | | | | |
| | LED / OLED | | | | |
| | Hard disk coating - 硬盘镀膜 | | | | |
| | Photovoltaics - 光伏 | | | | |
| | Glass coating (PVD) - 玻璃镀膜 | | | | |
| | CD / DVD / Blu-ray production (PVD) | | | | |
| | Optical coating (PVD) - 光学镀膜 | | | | |
| | Wear protection (PVD, CVD) - 硬质涂层 | | | | |
| | Web coating - 卷绕镀膜 | | | | |
| | Medical technology - 医学技术 | | | | |
| | Industrial leak detection - 工业检漏 | | | | |
| | Electron beam welding - 电子束焊接 | | | | |
| | Isolation vacuums - 隔离真空 | | | | |
| | Lamp and tube manufacturing - 灯管制造 | | | | |
| | Heat treatment - 热处理 | | | | |
| | Vacuum drying - 真空干燥 | | | | |
| | Vacuum furnaces - 真空炉 | | | | |
| | Nuclear research - 核研究 | | | | |
| | Fusion technology - 聚变技术 | | | | |
| | Plasma research - 等离子研究 | | | | |
| | Particle accelerators - 粒子加速器 | | | | |
| | Space simulation - 模拟空间站 | | | | |
| | Cryogenic research - 冷冻研究 | | | | |
| | Elementary particle physics - 基本粒子物理学 | | | | |
| | Nanotechnology - 纳米技术 | | | | |
| | Biotechnology - 生物技术 | | | | |
| ■ 推荐 | | | | | |
| ATH 1603 M | | | | | |
| ATH 1600 MT | | | | | |
| ATH 2303 M | | | | | |
| ATH 2300 MT | | | | | |
| ATH 2800 M | | | | | |
| ATH 2800 MT | | | | | |
| ATH 3200 M | | | | | |
| ATH 3200 MT | | | | | |
| ATP 2300 M | | | | | |

ATH 1600 – 3200 M, ATP 2300 M

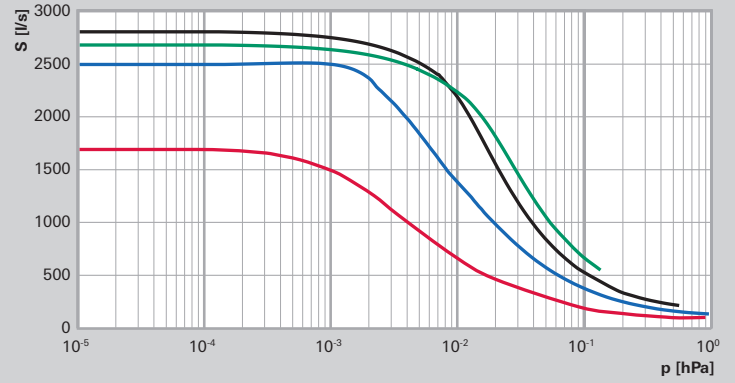
抽速和尺寸

抽速

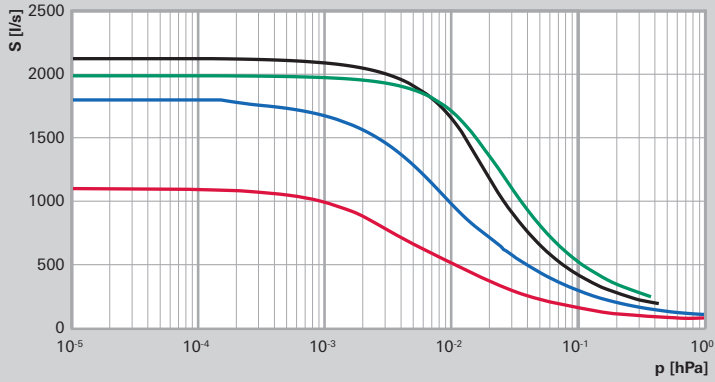
ATH 1603 M, DN 250



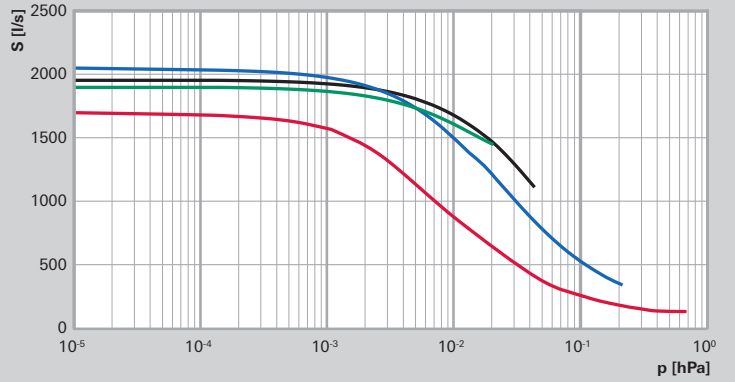
ATH 3200 M, DN 320



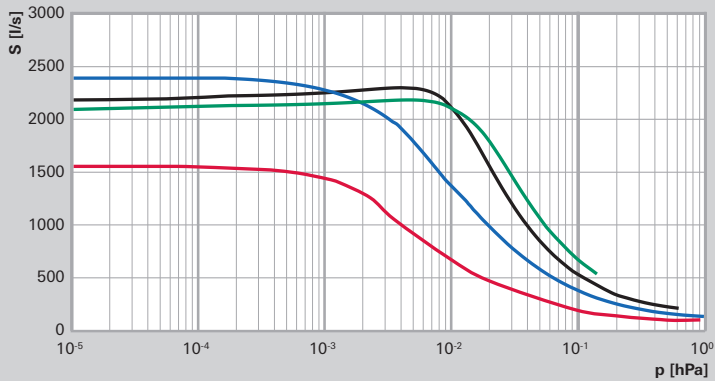
ATH 2303 M, DN 250



ATP 2300 M, DN 250



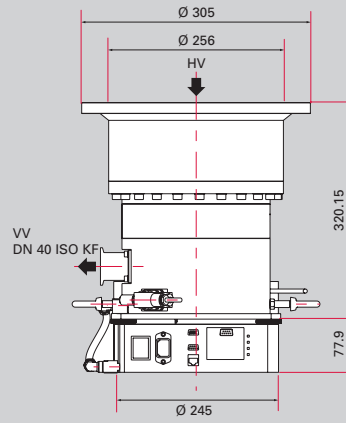
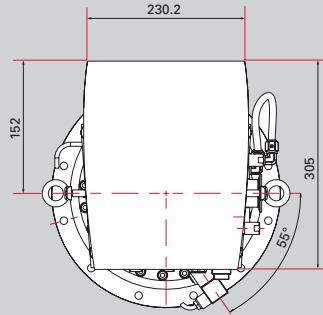
ATH 2800 M, DN 250



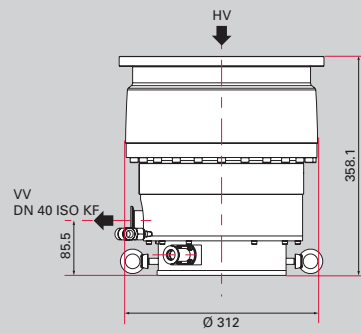
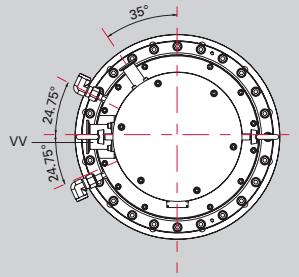
N₂ —
He —
H₂ —
Ar —

尺寸

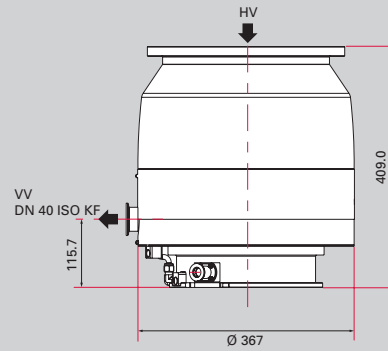
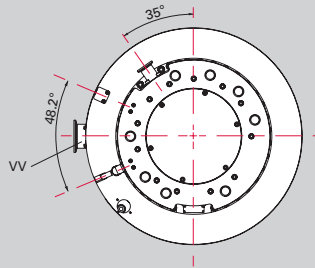
ATH 1603 M,
DN 250 ISO-F,
with integrated
drive electronics OBC V4



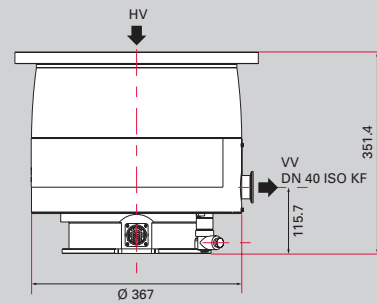
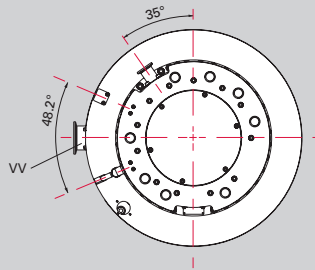
ATH 2303 M,
DN 250 ISO-F



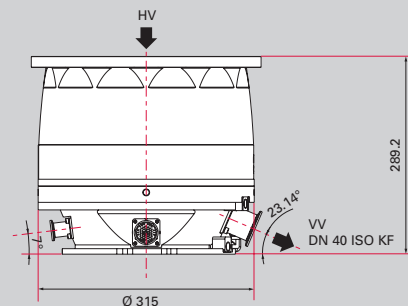
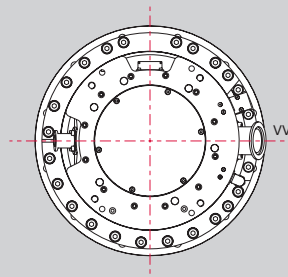
ATH 2800 M,
DN 250 ISO-F



ATH 3200 M,
DN 320 ISO-F



ATP 2300 M,
DN 250 ISO-F



ATH 1600 – 3200 M, ATP 2300 M

技术参数和订货号

技术参数

| Pump type | Unit | ATH 1603 M | ATH 2303 M | ATH 2800 M | ATH 3200 M | ATP 2300 M |
|-------------------------------|---------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Connection nominal diameter | | | | | | |
| Flange (in) | | DN 250 | DN 250 | DN 250 | DN 320 | DN 250 |
| Flange (out) | ISO-KF | DN 40 | DN 40 | DN 40 | DN 40 | DN 40 |
| Pumping speed for | | | | | | |
| Nitrogen (N ₂) | l/s | 1,400 | 2,150 | 2,200 | 2,800 | 1,950 |
| Helium (He) | l/s | 970 | 1,800 | 2,400 | 2,500 | 2,050 |
| Hydrogen (H ₂) | l/s | 540 | 1,100 | 1,550 | 1,700 | 1,700 |
| Argon (Ar) | l/s | 1,350 | 2,000 | 2,100 | 2,700 | 1,900 |
| Compression ratio for | | | | | | |
| Nitrogen (N ₂) | | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ |
| Nitrogen (N ₂) | | > 4 · 10 ⁴ | > 3 · 10 ⁴ | > 3 · 10 ⁴ | > 3 · 10 ⁴ | > 1 · 10 ⁵ |
| Hydrogen (H ₂) | | > 5 · 10 ² | > 1 · 10 ³ | > 2 · 10 ³ | > 2 · 10 ³ | > 7 · 10 ³ |
| Argon (Ar) | | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ |
| Max. fore-vacuum pressure for | | | | | | |
| Nitrogen (N ₂) | hPa | 1.7 | 2.9 | 2.1 | 2.1 | 2.1 |
| Gas throughput for | | | | | | |
| Nitrogen (N ₂) | hPa l/s | 67 | 67 | 84 | 84 | 37 |
| Helium (He) | hPa l/s | > 67 | > 67 | > 84 | > 84 | > 50 |
| Hydrogen (H ₂) | hPa l/s | > 67 | > 67 | > 84 | > 84 | > 50 |
| Argon (Ar) | hPa l/s | 20 | 25 | > 37 | > 37 | 15 |
| Final pressure | hPa | < 6 · 10 ⁻⁹ | < 6 · 10 ⁻⁹ | < 6 · 10 ⁻⁹ | < 6 · 10 ⁻⁹ | < 4 · 10 ⁻⁹ |
| RPM | RPM | 39,000 | 31,000 | 25,000 | 25,000 | 31,000 |
| Run-up time | min | < 6 | < 8 | < 10 | < 10 | < 8 |
| Cooling type, Standard | | Water | Water | Water | Water | Water |
| Cooling water consumption | l/min | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Cooling water temperature | °C | 15 – 25 | 15 – 25 | 15 – 25 | 15 – 25 | 15 – 25 |
| Power connection: voltage | V AC | 200 – 240 | 200 – 240 | 200 – 240 | 200 – 240 | 200 – 240 |
| Max. power consumption | W | 650 | 1,000 | 1,000 | 1,000 | 1,000 |
| Weight ¹⁾ | kg | 42 | 68 | 93 | 93 | 60 |

订货号

| Pump type | ATH 1603 M | | | | ATH 2303 M | |
|----------------------------|--------------|-------------|--------------|-------------|--------------|-------------|
| Interface \ flange | DN 200 ISO-F | DN 200 CF-F | DN 250 ISO-F | DN 250 CF-F | DN 250 ISO-F | DN 250 CF-F |
| External drive electronics | Y2562100 | Y2522100 | Y2662100 | Y2622100 | X2662100 | X2622100 |
| OBC V4 Profibus | YN56215A | YN52215A | YN66215A | YN62215A | XN66215A | XN62215A |
| OBC V4 DeviceNet | YL56215A | YL52215A | YL66215A | YL62215A | XL66215A | XL62215A |
| OBC V4 Remote | YJ56215A | YJ52215A | YJ66215A | YJ62215A | XL66215A | XJ62215A |

| Pump type | ATH 2800 M | | ATH 3200 M | | ATP 2300 M | |
|----------------------------|--------------|----------|------------|----------|--------------|-------------|
| Interface \ flange | DN 250 ISO-F | VG 250 | DN 320 | VG 350 | DN 250 ISO-F | DN 250 CF-F |
| External drive electronics | U2662100 | U26A2100 | U2C62100 | U2DA2100 | T2662100 | T2622100 |
| OBC V4 Profibus | | | | | TN66215A | TN62215A |
| OBC V4 DeviceNet | | | | | TL66215A | TL62215A |
| OBC V4 Remote | | | | | TJ66215A | TJ62215A |

技术参数

| Pump type | Unit | ATH 1600 MT | ATH 2300 MT | ATH 2800 MT | ATH 3200 MT |
|-------------------------------|---------|------------------------|------------------------|------------------------|------------------------|
| Connection nominal diameter | | | | | |
| Flange (in) | | DN 250 | DN 250 | DN 250 | DN 320 |
| Flange (in) | ISO-KF | DN 40 | DN 40 | DN 40 | DN 40 |
| Pumping speed for | | | | | |
| Nitrogen (N ₂) | l/s | 1,360 | 2,150 | 2,200 | 2,800 |
| Helium (He) | l/s | 940 | 1,800 | 2,400 | 2,500 |
| Hydrogen (H ₂) | l/s | 540 | 1,100 | 1,550 | 1,700 |
| Argon (Ar) | l/s | 1,280 | 2,000 | 2,100 | 2,700 |
| Compression ratio for | | | | | |
| Nitrogen (N ₂) | | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ |
| Helium (He) | | > 4 · 10 ³ | > 3 · 10 ⁴ | > 3 · 10 ⁴ | > 3 · 10 ⁴ |
| Hydrogen (H ₂) | | > 5 · 10 ² | > 2 · 10 ³ | > 2 · 10 ³ | > 2 · 10 ³ |
| Argon (Ar) | | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ | > 1 · 10 ⁸ |
| Max. fore-vacuum pressure for | | | | | |
| Nitrogen (N ₂) | hPa | 2.2 | 2.8 | 2.1 | 2.1 |
| Gas throughput for | | | | | |
| Nitrogen (N ₂) | hPa l/s | 67 | 67 | 84 | 84 |
| Helium (He) | hPa l/s | > 67 | > 67 | > 84 | > 84 |
| Hydrogen (H ₂) | hPa l/s | > 67 | > 67 | > 84 | > 84 |
| Argon (Ar) | hPa l/s | 20 | 25 | > 37 | > 37 |
| Ultimate pressure | hPa | < 6 · 10 ⁻⁹ | < 6 · 10 ⁻⁹ | < 6 · 10 ⁻⁹ | < 6 · 10 ⁻⁹ |
| Rotation speed | RPM | 39,000 | 31,000 | 25,000 | 25,000 |
| Run-up time | min | < 6 | < 8 | < 10 | < 10 |
| Cooling type, Standard | | Water | Water | Water | Water |
| Cooling water consumption | l/min | 1.0 | 1.0 | 1.0 | 1.0 |
| Cooling water temperature | °C | 15 – 25 | 15 – 25 | 15 – 25 | 15 – 25 |
| Power connection: voltage | V AC | 200 – 240 | 200 – 240 | 200 – 240 | 200 – 240 |
| Max. power consumption | W | 650 | 1,000 | 1,000 | 1,000 |
| Weight ¹⁾ | kg | 42 | 68 | 93 | 93 |

¹⁾Weight including drive electronics 8 kg

You can find additional technical data and accessories on the Internet at: www.pfeiffer-vacuum.com

订货号

| Pump type | ATH 1600 MT | | | | ATH 2300 MT | | |
|----------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Interface \ flange | DN 200 ISO-F | DN 200 CF-F | DN 250 ISO-F | DN 250 CF-F | DN 200 ISO-F | DN 250 ISO-F | DN 250 CF-F |
| External drive electronics | P6562100 | P6522100 | P6662100 | P6622100 | Q6562100 | Q6662100 | Q6622100 |
| OBC V4 Profibus | PM56215A | PM52215A | PM66215A | PM62215A | QM56215A | QM66215A | QM62215A |
| OBC V4 Remote | PI56215A | PI52215A | PM66215A | PI62215A | QI56215A | QI66215A | QI62215A |

| Pump type | ATH 2800 MT | | ATH 3200 MT | |
|----------------------------|-----------------|-----------------|-----------------|-----------------|
| Interface \ flange | DN 250 ISO-F | VG 250 | DN 320 ISO-F | VG 350 |
| External drive electronics | U6662100 | U66A2100 | U6C62100 | U6DA2100 |

Further configurations on request.

上海伯东--您理想的真空合作伙伴!

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上海伯东真空产品事业部秉承为广大中国客户提供世界一流的真空产品、推动中国真空工艺发展、承担企业社会责任为经营理念，已累计为超过10,000家企业提供真空服务，覆盖工业、半导体、镀膜、科研和分析行业。

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